

WHAT IS CLAIMED IS:

1. A hybrid drive device having a generator which is driven by an engine, a storage device which stores generated electrical power from the generator, and an electrical motor which is driven by the electrical power of the storage device and/or the electrical power of the generator;
the storage device comprising:
a condenser bank having a plurality of condenser cells connected in series;
a parallel monitor which is connected in parallel to each condenser cell and which bypasses the charging current when the respective terminal voltages exceed a fixed value; and
a switching converter with fixed current output characteristics which controls the charging electrical power to the condenser bank.
2. A hybrid drive device for use in a hybrid vehicle having a generator which is driven by an engine, a storage device which stores generated electrical power from the generator, and an electrical motor which drives the vehicle drive wheel with the electrical power of the storage device and/or the electrical power of the generator,
the hybrid drive device comprising:
a storage device including a condenser bank having a plurality of condenser cells connected in series;
a parallel monitor which is connected in parallel to each condenser cell and which bypasses the charging current when the respective terminal voltages exceed a fixed value;
a switching converter with fixed current output characteristics which controls the charging electrical power to the condenser bank; and
a controller which detects the amount of the state of charge in the storage device and the required vehicle drive power and controls the switching converter to achieve a motor power corresponding to the required drive power, the controller controlling the engine to maintain the amount of the state of charge to a suitable value.
3. The hybrid drive device according to Claim 1 or Claim 2, wherein the switching converter of the storage device further has fixed voltage output characteristics and a wide operating range, and further controls

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the discharging electrical power from the condenser bank.

4. The hybrid drive device according to Claim 1 or Claim 2, wherein each condenser of the storage device is an electrical double-layer condenser which has a large electrostatic capacity.

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